**Lesson Plan** Day 1 **Technology Differentiation Critical Thinking**

**Course/Lesson** Ch 3 Lesson 1 **Algebra 2**  **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A2 Recognize the relationship between real number operations and algebraic operations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

A4 Solving algebraic equations

G6 Demonstrating deductive reasoning and mathematical justification

**Objective(s):** Solve systems of linear equations by graphing

Determine whether a system of linear equations is consistent and independent,

consistent and dependent, or inconsistent.

**Opening:**  5 minute opener pp slide 91 # 1-4

**Strategies:** graph equations tell if consistent and independent, consistent and dependent or inconsistent page 113 selected problems from page 113

**Critical Thinking/Questions:**  Why is it necessary to have several methods to solve systems of equations? When would you use each method?

**Closing:**  review problems –students present on LCD

**Assessment:**  Skills 3-1

**Lesson Plan** Day 2

**Course/Lesson** Ch 3 lesson 2 **Algebra 2**  **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A2 Recognize the relationship between real number operations and algebraic operations

A4 Solving algebraic equations

G1 Identifying, describing, comparing, constructing and classifying geometric figures in two and three

dimensions

G6 Demonstrating deductive reasoning and mathematical justification

**Objective(s):** Solve systems of linear equations by using substitution

Solve systems of linear equations by using elimination

**Opening:**  Online Quiz Chapter 3 Lesson 1

**Strategies:** Review skills 3-1

Use Kagan strategy “find someone who” put problems on index cards

**Critical Thinking/Questions:** Why is it necessary to have several methods to solve systems of equations? When would you use each method?

**Closing:**  Review critical thinking question---get opinions

**Assessment:**  Skills 3-2

**Lesson Plan** Day 3

**Course/Lesson** Ch 3 Lesson 3 **Algebra 2**  **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A2 Recognize the relationship between real number operations and algebraic operations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

A4 Solving algebraic equations

G6 Demonstrating deductive reasoning and mathematical justification

**Objective(s):** Solve systems of inequalitites by graphing

Determine the coordinates of the vertices of a region formed by the graph of a system

of inequalities

**Opening:**  Online quiz Ch 3 lesson 2

**Strategies:** Review Skills 3-2

Selected problems from page 125 # 1- 7

Mixed review in preparation for midterm exam page 127

Graphing Calculator Investigation page 128

**Critical Thinking/Questions:**  The general form of an equation for a parabola is y = + bx + c, where (x, y) is a point on the parabola. Determine the values of a,b c for the parabola and write the general form of the equation.

**Closing:**  present Critical thinking question

**Assessment:**  Skills 3-3

**Lesson Plan** Day 4

**Course/Lesson** Ch 3 Lesson 3—second day **Algebra 2**  **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A2 Recognize the relationship between real number operations and algebraic operations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

A4 Solving algebraic equations

G6 Demonstrating deductive reasoning and mathematical justification

**Objective(s):** continue solving inequalities

**Opening:**  Online quiz Chapter 3 lesson 3

**Strategies:** Review 3-3

Constraints and feasible regions bounded and vertices

Review Key concepts page 130—project on LCD

**Critical Thinking/Questions:**  The general form of an equation for a parabola is y = + bx + c, where (x, y) is a point on the parabola. Determine the values of a,b c for the parabola and write the general form of the equation.

**Closing:**  Review Critical question---guided questioning

**Assessment:**  mixed review p. 115 # 58 - 79

**Lesson Plan** Day 5

**Course/Lesson** Chapter3 Lesson 5 **Algebra 2**  **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A2 Recognize the relationship between real number operations and algebraic operations

A4 Solving algebraic equations

G1 Identifying, describing, comparing, constructing and classifying geometric figures in two and three

dimensions

G6 Demonstrating deductive reasoning and mathematical justification

**Objective(s):** Solve systems of equations in three variables—show calculator method for matrix solving

Solve real-world problems using systems of linear equations in three variables

**Opening:**  Act review

**Strategies:** Review p. 115 # 58 - 79

Practice Quiz p. 135—submit to drop box

Examples and problems pages 142

**Critical Thinking/Questions:**  The general form of an equation for a parabola is y = + bx + c, where (x, y) is a point on the parabola. Determine the values of a,b c for the parabola and write the general form of the equation.

**Closing:**  Guided questions for Critical thinking questions

**Assessment:**  Skills 3-5—selected problems

**Lesson Plan** Day 6

**Course/Lesson** Chapter 3 Review **Algebra 2**  **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A2 Recognize the relationship between real number operations and algebraic operations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

A4 Solving algebraic equations

G1 Identifying, describing, comparing, constructing and classifying geometric figures in two and three

dimensions

G6 Demonstrating deductive reasoning and mathematical justification

**Objective(s):** Review objectives for Chapter 3

**Opening:**  online quiz Chapter 3 Lesson 5

**Strategies:**  Review Skills 3-5

Groups to study for test

Tournament for groups---ask questions in competition format

**Critical Thinking/Questions:**  The general form of an equation for a parabola is y = + bx + c, where (x, y) is a point on the parabola. Determine the values of a,b c for the parabola and write the general form of the equation.

**Closing:**  Declare one group winner of tournament

**Assessment:**  practice test page 149 # 1 - 20

**Lesson Plan** Day 7

**Course/Lesson** Ch 3 Assessment **Algebra 2**  **Teacher: Phoebe Solek**

**Standards and Benchmarks**

N 5 Selecting and using appropriate computational methods and tools

N7 Justifying reasonableness of solutions and verifying results

A1 Demonstrating the ability to translate real-world situations into algebraic expressions and equations

A2 Recognize the relationship between real number operations and algebraic operations

A3 Use tables and graphs as tools to interpret algebraic expressions, equations and inequalities

A4 Solving algebraic equations

G1 Identifying, describing, comparing, constructing and classifying geometric figures in two and three

dimensions

G6 Demonstrating deductive reasoning and mathematical justification

**Objective(s):** Assess objectives for Chapter 3

**Opening:**  review any questions from homework

**Strategies:** students take tests

**Critical Thinking/Questions:** The general form of an equation for a parabola is y = + bx + c, where (x, y) is a point on the parabola. Determine the values of a,b c for the parabola and write the general form of the equation.

**Closing:**  collect tests & complete critical question

**Assessment:**  Design a mid-term exam—give objectives to students—include answers